

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Official

6-1903
131,941

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1 - 3. (Canceled)

4. (currently amended) A reproduction apparatus for reproducing information from an information storage medium, the information storage medium comprising: a recording information area; and an aggregate attribute information area.

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wherein the recording information area comprises:

a partial recording information area where partial recording information is recorded, the partial recording information including unit audio information which is logically defined; and

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a control data area where partial recording information attribute information is recorded as control data, the partial recording information attribute information indicating attributes of the partial recording information,

and wherein unit audio information attribute information is collectively recorded in the aggregate attribute information area, the unit audio information attribute information indicating attributes of the unit audio information, and wherein the aggregate attribute information area is formed at a position on the information storage medium such that the unit audio information attribute information can be detected prior to the partial recording information and the control data.

a plurality of unit audio information to be reproduced independently of each other; aggregate audio information each including one or more of the unit audio information; unit attribute information indicating attributes of the unit audio information included in the aggregate audio information; and

aggregate attribute information indicating a start address, playback time and attributes of the unit audio information corresponding to the aggregate audio information recorded on the storage medium,

and the reproduction apparatus comprising comprises:

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a reading unit for reading information from the information storage medium;
a storage unit for storing the aggregate attribute information read by the reading unit;
an input unit for receiving, from a user, a reproduction instruction designating a plurality of unit audio information to be reproduced successively; and
a reproduction unit for setting the attribute for the reproduction based on the aggregate attribute information stored in the storage unit and for reproducing the unit audio information designated by the user in accordance with the attribute set, wherein said reproduction unit comprising comprises:
an obtaining unit for obtaining the attribute attributes corresponding to each of the plurality of unit audio information designated by the user from the aggregate attribute information stored in the storage unit;
a determining unit for determining whether or not the obtained attributes of the unit audio information to be successively reproduced are identical; and
an attribute change unit for starting an attribute setting of the unit audio information to be reproduced next immediately after the reproduction of the unit audio information currently reproduced, if the determining unit determines that the attributes are different.

5. (currently amended) An The reproduction apparatus according to claim 4, wherein the reproduction unit comprising comprises a search unit for transferring the reading unit to a recording position on the information storage medium of the unit audio information to be reproduced next immediately after the reproduction of the unit audio information currently reproduced, and for allowing the reproduction unit to start reproduction of the unit audio information to be reproduced next after a predetermined waiting time has passed from the start of the transfer of the reading unit.
6. (currently amended) An The reproduction apparatus according to claim 5, wherein the waiting time is longer than a time required to change the set attribute by the attribute change unit.

7. (currently amended) A reproduction apparatus for reproducing information from an information storage medium, the information storage medium comprising:
a recording information area; and
an aggregate attribute information area,
wherein the recording information area comprises:
a partial recording information area where partial recording information is recorded, the partial recording information including unit audio information which is logically defined; and
a control data area where partial recording information attribute information is recorded as control data, the partial recording information attribute information indicating attributes of the partial recording information.
and wherein unit audio information attribute information is collectively recorded in the aggregate attribute information area, the unit audio information attribute information indicating attributes of the unit audio information, and wherein the aggregate attribute information area is formed at a position on the information storage medium such that the unit audio information attribute information can be detected prior to the partial recording information and the control data.
~~a plurality of unit audio information to be reproduced independently of each other;~~
~~aggregate audio information each including one or more of the unit audio information;~~
~~and~~
~~unit attribute information indicating attributes of the unit audio information included in the aggregate audio information, and~~
and the reproduction apparatus comprising comprises:
a reading unit for reading information from the information storage medium;
a table producing unit for obtaining the unit aggregate attribute information corresponding to the aggregate unit audio information recorded on the information storage medium from the reading unit and for producing an aggregate attribute information table aggregating the unit attribute information collectively,
~~the aggregate information table indicating a start address, playback time and attributes of the unit audio information;~~

a storage unit for storing the aggregate attribute information table produced by the table producing unit;

an input unit for receiving, from a user, a reproduction instruction designating a plurality of the unit audio information to be reproduced successively; and

a reproduction unit for setting the attribute for the reproduction based on the aggregate attribute information table stored in the storage unit and for reproducing the unit audio information designated by the user in accordance with the attribute set, wherein said reproduction unit comprising comprises:

an obtaining unit for obtaining the attributes corresponding to each of the plurality of unit audio information designated by the user from the aggregate attribute information table stored in the storage units;

a determining unit for determining whether or not the obtained attributes of the unit audio information to be successively reproduced are identical; and

an attribute change unit for starting an attribute setting of the unit audio information to be reproduced next immediately after the reproduction of the unit audio information currently reproduced, if the determining unit determines that the attributes are different.

8. (currently amended) An The reproduction apparatus according to claim 7, wherein the reproduction unit comprising further comprises a search unit for transferring the reading unit to a recording position on the information/storage medium of the unit audio information to be reproduced next immediately after the reproduction of the unit audio information currently reproduced, and for allowing the reproduction unit to start reproduction of the unit audio information to be reproduced next after a predetermined waiting time has passed from the start of the transfer of the reading unit.
9. (currently amended) An The reproduction apparatus according to claim 8, wherein the waiting time is longer than a time required to change the set attribute by the attribute change unit.

10. (currently amended) A reproduction method for reproducing information of from an information storage medium, wherein the information storage medium comprising comprises:

a recording information area; and

an aggregate attribute information area,

wherein the recording information area comprises:

a partial recording information area where partial recording information is recorded, the partial recording information including unit audio information which is logically defined; and

a control data area where partial recording information attribute information is recorded as control data, the partial recording information attribute information indicating attributes of the partial recording information,

and wherein unit audio information attribute information is collectively recorded in the aggregate attribute information area, the unit audio information attribute information indicating attributes of the unit audio information, and wherein the aggregate attribute information area is formed at a position on the information storage medium such that the unit audio information attribute information can be detected prior to the partial recording information and the control data.

a plurality of unit audio information to be reproduced independently of each other;

aggregate audio information each including one or more of the unit audio information;

unit attribute information indicating attributes of the unit audio information included in the aggregate audio information; and

aggregate attribute information indicating a start address, playback time and attributes of the unit audio information corresponding to the aggregate audio information recorded on the storage medium,

and the reproduction method comprising the steps of comprises:

reading the aggregate attribute information from the information storage medium to store the read information into a storage unit;

storing the aggregate attribute information read in the reading process in a storage unit;

receiving, from a user, a reproduction instruction designating a plurality of the unit audio information to be reproduced successively;

setting the attribute for the reproduction based on the aggregate attribute information stored in the storage unit; and
reproducing the unit audio information designated by the user in accordance with the attribute set, wherein said reproducing step ~~comprising the steps of~~ ~~comprises~~:
obtaining the attributes corresponding to each of the plurality of the unit audio information designated by the user from the aggregate attribute information stored in the storage unit;
determining whether or not the obtained attributes of the unit audio information to be successively reproduced successively are identical; and
starting an attribute setting of the unit audio information to be reproduced next immediately after the reproduction of the unit audio information currently reproduced, if it is determined in the determining step that the attributes are different.

11. (currently amended) ~~A~~ The reproduction method according to claim 10, wherein the ~~reproducing step comprising the steps of~~ ~~reproduction method further comprises a search process, the search process comprising:~~
transferring an information reading position to a recording position on the information storage medium of the unit audio information to be reproduced next immediately after the reproduction of the unit audio information currently reproduced; and
starting reproduction of the unit audio information to be reproduced next after a predetermined waiting time has passed from the start of the transfer of the information reading position.
12. (currently amended) ~~A~~ The reproduction method according to claim 11, wherein the waiting time is longer than a time required to change the set attribute.
13. (currently amended) ~~A~~ reproduction method of ~~for reproducing information from an~~ information storage medium, wherein the information storage medium ~~comprising~~ comprises:
a recording information area, and

an aggregate attribute information area,

wherein the recording information area comprises:

a partial recording information area where partial recording information is recorded, the partial recording information including unit audio information which is logically defined; and

a control data area where partial recording information attribute information is recorded as control data, the partial recording information attribute information indicating attributes of the partial recording information,

and wherein unit audio information attribute information is collectively recorded in the aggregate attribute information area, the unit audio information attribute information indicating attributes of the unit audio information, and wherein the aggregate attribute information area is formed at a position on the information storage medium such that the unit audio information attribute information can be detected prior to the partial recording information and the control data,

a plurality of unit audio information to be reproduced independently of each other;
aggregate audio information each including one or more of the unit audio information;
and

unit attribute information indicating attributes of the unit audio information included in the aggregate audio information,

and the reproduction method comprising
comprises:

reading the unit attribute information corresponding to the aggregate audio information recorded on the information storage medium to produce an aggregate attribute information table, the aggregate attribute information table indicating a start address, playback time and attributes of the unit audio information;
obtaining the aggregate attribute information corresponding to the unit audio information recorded on the information storage medium in the reading process to produce an aggregate attribute information table

storing the produced aggregate attribute information table produced into a storage unit;
receiving, from a user, a reproduction instruction designating a plurality of the unit audio information to be reproduced successively;

setting the attribute for the reproduction based on the aggregate attribute information table stored in the storage unit; and
reproducing the unit audio information designated by the user in accordance with the attribute set, wherein said reproducing step ~~comprising the steps of~~ ~~comprises~~:
obtaining the attributes corresponding to each of the plurality of unit audio information designated by the user from the aggregate attribute information table stored in the storage unit;
determining whether or not the attributes of the unit audio information to be successively reproduced are identical; and
starting an attribute setting of the unit audio information to be reproduced next immediately after the reproduction of the unit audio information currently reproduced, if it is determined in the determining step that the attributes are different.

14. (currently amended) ~~A- The reproduction method according to claim 13, wherein the reproducing step comprising the steps of reproduction method further comprises a search process, the search process comprising:~~
transferring an information reading position to a recording position on the information storage medium of the unit audio information to be reproduced next immediately after the reproduction of the unit audio information currently reproduced; and
starting reproduction of the unit audio information to be reproduced next after a predetermined waiting time has passed from the start of the transfer of the information reading position.
15. (currently amended) ~~A- The reproduction method according to claim 14, wherein the waiting time is longer than a time required to change the set attribute.~~
- 16 - 18. (previously canceled)
19. (cancelled)

20. (previously canceled)

21 - 43. (canceled)

44. (new) An information storage medium comprising:

a recording information area and

an aggregate attribute information area,

wherein the recording information area comprises:

a partial recording information area where partial recording information is recorded, the partial recording information including unit audio information which is logically defined; and

a control data area where control data including partial recording information attribute information is recorded, the partial recording information attribute information indicating attributes of the partial recording information, and

wherein unit audio information attribute information is collectively recorded in the aggregate attribute information area, the unit audio information attribute information indicating attributes of the unit audio information respectively, and wherein the aggregate attribute information area is formed at a position on the information storage medium such that the unit audio information attribute information can be detected prior to the partial recording information and the control data.

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45. (new) The information storage medium according to claim 44, wherein the aggregate attribute information area is formed within a management information area where management information is recorded, the management information being information to manage information recorded on the information storage medium.

46. (new) The information storage medium according to claim 44, wherein the unit audio information attribute information comprises:

information indicating a sampling frequency of the unit audio information and

a quantization bit number of the unit audio information corresponding to the unit audio information attribute information.

47. (new) The information storage medium according to claim 45, wherein the unit audio information attribute information comprises:
information indicating a sampling frequency of the unit audio information and a quantization bit number of the unit audio information corresponding to the unit audio information attribute information.

48. (new) The information storage medium according to claim 44, wherein the partial recording information attribute information comprises:
a number of the unit audio information;
playback time of the unit audio information;
a start address of the unit audio information on the information storage medium;
an end address of the unit audio information on the information storage medium; and the unit audio information attribute information.

49. (new) The information storage medium according to claim 45, wherein the partial recording information attribute information comprises:
a number of the unit audio information;
playback time of the unit audio information;
a start address of the unit audio information on the information storage medium;
an end address of the unit audio information on the information storage medium; and the unit audio information attribute information.

50. (new) The information storage medium according to claim 46, wherein the partial recording information attribute information comprises:
a number of the unit audio information;
playback time of the unit audio information;
a start address of the unit audio information on the information storage medium;
an end address of the unit audio information on the information storage medium; and

the unit audio information attribute information.

51. (new) The information storage medium according to claim 47, wherein the partial recording information attribute information comprises:
a number of the unit audio information;
playback time of the unit audio information;
a start address of the unit audio information on the information storage medium;
an end address of the unit audio information on the information storage medium; and
the unit audio information attribute information.
52. (new) A reproduction apparatus for reproducing information from an information storage medium, wherein said information storage medium comprises:
a recording information area and
an aggregate attribute information area,
wherein the recording information area comprises:
a partial recording information area where partial recording information is recorded, the partial recording information including unit audio information which is logically defined; and
a control data area where control data including partial recording information attribute information is recorded as control data, the partial recording information attribute information indicating attributes of the partial recording information, and
wherein unit audio information attribute information is collectively recorded in the aggregate attribute information area, the unit audio information attribute information indicating attributes of the unit audio information respectively, and wherein the aggregate attribute information area is formed at a position on the information storage medium such that the unit audio information attribute information can be detected prior to the partial recording information and the control data,
the reproduction apparatus comprising:
a detecting unit for detecting the unit audio information attribute information from the aggregate attribute information area; and

a reproducing unit for reproducing the unit audio information based on the detected unit audio information attribute information.

53. (new) The reproduction apparatus according to claim 52, wherein the aggregate attribute information area is formed within a management information area where management information is recorded, the management information being information to manage information recorded on the information storage medium.
54. (new) The reproduction apparatus according to claim 52, wherein the unit audio information attribute information comprises:
information indicating a sampling frequency of the unit audio information and a quantization bit number of the unit audio information corresponding to the unit audio information attribute information.
55. (new) The reproduction apparatus according to claim 52, wherein the unit audio information attribute information comprises:
information indicating a sampling frequency of the unit audio information and a quantization bit number of the unit audio information corresponding to the unit audio information attribute information,
and wherein the aggregate attribute information area is formed within a management information area where management information is recorded, the management information being information to manage information recorded on the information storage medium.
56. (new) The reproduction apparatus according to claim 52, wherein the partial recording information attribute information comprises:
a number of the unit audio information;
playback time of the unit audio information;
a start address of the unit audio information on the information storage medium;
an end address of the unit audio information on the information storage medium; and
the unit audio information attribute information.

57. (new) The reproduction apparatus according to claim 52, wherein the partial recording information attribute information comprises:
a number of the unit audio information;
playback time of the unit audio information;
a start address of the unit audio information on the information storage medium;
an end address of the unit audio information on the information storage medium; and
the unit audio information attribute information,
and wherein the aggregate attribute information area is formed within a management information area where management information is recorded, the management information being information to manage information recorded on the information storage medium.

58. (new) The reproduction apparatus according to claim 52, wherein the partial recording information attribute information comprises:
a number of the unit audio information;
playback time of the unit audio information;
a start address of the unit audio information on the information storage medium;
an end address of the unit audio information on the information storage medium;
and
the unit audio information attribute information,
and wherein the unit audio information attribute information comprises:
information indicating a sampling frequency of the unit audio information and
a quantization bit number of the unit audio information corresponding to the unit audio information attribute information.

59. (new) The reproduction apparatus according to claim 52, wherein the partial recording information attribute information comprises:
a number of the unit audio information;
playback time of the unit audio information;
a start address of the unit audio information on the information storage medium;

an end address of the unit audio information on the information storage medium;
and

the unit audio information attribute information,

and wherein the unit audio information attribute information comprises:

information indicating a sampling frequency of the unit audio information and
a quantization bit number of the unit audio information corresponding to the unit
audio information attribute information,

and wherein the aggregate attribute information area is formed within a management
information area where management information is recorded, the management
information being information to manage information recorded on the information
storage medium.

60. (new) A reproduction method for reproducing information from an information storage medium, wherein said information storage medium comprises:
a recording information area and
an aggregate attribute information area,
wherein the recording information area comprises:
a partial recording information area where partial recording information is
recorded, the partial recording information including unit audio
information which is logically defined; and
a control data area where control data including partial recording information
attribute information is recorded as control data, the partial recording
information attribute information indicating attributes of the partial
recording information,
and wherein unit audio information attribute information is collectively recorded in the
aggregate attribute information area, the unit audio information attribute information
indicating attributes of the unit audio information respectively, and wherein the aggregate
attribute information area is formed at a position on the information storage medium such
that the unit audio information attribute information can be detected prior to the partial
recording information and the control data,
the reproduction method comprising:

detecting the unit audio information attribute information from the aggregate attribute information area; and
reproducing the unit audio information based on the detected unit audio information attribute information.

61. (new) The reproduction method according to claim 60, wherein the aggregate attribute information area is formed within a management information area where management information is recorded, the management information being information to manage information recorded on the information storage medium.
62. (new) The reproduction method according to claim 60, wherein the unit audio information attribute information comprises:
information indicating a sampling frequency of the unit audio information and a quantization bit number of the unit audio information corresponding to the unit audio information attribute information.
63. (new) The reproduction method according to claim 60, wherein the unit audio information attribute information comprises:
information indicating a sampling frequency of the unit audio information and a quantization bit number of the unit audio information corresponding to the unit audio information attribute information,
and wherein the aggregate attribute information area is formed within a management information area where management information is recorded, the management information being information to manage information recorded on the information storage medium.
64. (new) The reproduction method according to claim 60, wherein the partial recording information attribute information comprises:
a number of the unit audio information,
playback time of the unit audio information,
a start address of the unit audio information on the information storage medium,

an end address of the unit audio information on the information storage medium,
and
the unit audio information attribute information.

65. (new) The reproduction method according to claim 60, wherein the partial recording information attribute information comprises:

a number of the unit audio information;
playback time of the unit audio information;
a start address of the unit audio information on the information storage medium;
an end address of the unit audio information on the information storage medium;
and
the unit audio information attribute information,
and wherein the aggregate attribute information area is formed within management information area where management information is recorded, the management information being information to manage information recorded on the information storage medium.

66. (new) The reproduction method according to claim 60, wherein the partial recording information attribute information comprises:

a number of the unit audio information;
playback time of the unit audio information;
a start address of the unit audio information on the information storage medium;
an end address of the unit audio information on the information storage medium,
and
the unit audio information attribute information,
and wherein the unit audio information attribute information comprises:
information indicating a sampling frequency of the unit audio information and
a quantization bit number of the unit audio information corresponding to the unit audio information attribute information.

67. (new) The reproduction method according to claim 60, wherein the partial recording information attribute information comprises:

a number of the unit audio information;

playback time of the unit audio information;

a start address of the unit audio information on the information storage medium;

an end address of the unit audio information on the information storage medium;

and

the unit audio information attribute information,

and wherein the unit audio information attribute information comprises:

information indicating a sampling frequency of the unit audio information and

a quantization bit number of the unit audio information corresponding to the unit

audio information attribute information,

and wherein the aggregate attribute information area is formed within a management information area where management information is recorded, the management information being information to manage information recorded on the information storage medium.

68. (new) An information recording apparatus comprising:

a first generating device for generating recording information comprising partial recording information including unit audio information which is logically defined;

a second generating device for generating additional information comprising control data and unit audio information attribute information, the control data including partial recording information attribute information indicating attributes of the partial recording information, and the unit audio information attribute information indicating attributes of the unit audio information respectively; and

a recording device for recording the recording information and the additional information into an information storage medium,

wherein the unit audio information attribute information is recorded at a position on the information storage medium such that the unit audio information attribute information can be detected prior to the partial recording information and the control data.

69. (new) An information recording method comprising:

a first generating process for generating recording information comprising partial recording information including unit audio information which is logically defined;

a second generating process for generating additional information comprising control data and unit audio information attribute information, the control data including partial recording information attribute information indicating attributes of the partial recording information, and the unit audio information attribute information indicating attributes of the unit audio information respectively; and

a recording process for recording the recording information and the additional information into an information storage medium,

wherein the unit audio information attribute information is recorded at a position on the information storage medium such that the unit audio information attribute information can be detected prior to the partial recording information and the control data.